Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 76 of the Commission's Rules	)	
to Extend Interference Protection to the Marine	)	MB Docket No: 03-50
and Aeronautical Distress and Safety Frequency	)	
406.025 MHz	)	
	)	
	)	
	)	

REPORT AND ORDER

Adopted: March 30, 2004 **Released: April 14, 2004**

By the Commission:

I. INTRODUCTION

1. In this Report and Order ("*Order*"), we modify Section 76.616 of our rules to include interference protection to the international digital search and rescue frequencies used by the COSPAS/SARSAT satellites to detect and locate Emergency Position Indicating Radio Beacons (EPIRBs) and Emergency Locator Transmitters (ELTs).[1] We extend interference protection to these beacons while taking into account the effects such restrictions may have on digital cable systems by allowing for more appropriate measurement techniques for digital cable systems. In addition, we extend the interference protection to all frequencies which the beacons may operate on in the near future. We also streamline and revise Part 76, Multichannel Video and Cable Television Service, and Part 78, Cable Television Relay Services by eliminating outdated rules, correcting others, and maintaining consistency throughout the Commission Rules

II. BACKGROUND

2. We issued a Notice of Proposed Rule Making ("*Notice*") in this proceeding on March 5, 2003.[2] In the *Notice* we proposed to protect the international digital emergency and distress frequency at 406.025 MHz in the same way we protect the other distress and safety frequencies, by forbidding the

[1] "COSPAS" is an acronym for a Russian phrase meaning space system for search and distress vessels. "SARSAT" stands for Search And Rescue Satellite Aided Tracking *See Amendment of the Aviation Rules (Part 87) to Authorize the Use of the Frequency 406.025 MHz for Emergency Locator Transmitters (ELTs)*, 8 FCC Rcd 3185 n.3 (1993). Emergency position indicating radiobeacon stations are small battery powered transmitters used to send a distress signal that is used as an alerting signal and to assist search and rescue personnel. In the United States such beacons are named emergency locator transmitters (ELTs) when carried on an aircraft and emergency position indicating radiobeacons (EPIRBs) when carried on ships. ELTs and EPIRBs operate on the same internationally allocated frequencies and transmit identical distress signals.

[2] *Amendment of Part 76 of the Commission's Rules to Extend Interference Protection to the Marine and Aeronautical Distress and Safety Frequency 406 025 MHz*, 18 FCC Rcd 3398 (2003).

transmission of carriers or other signal components capable of delivering peak power levels equal to or greater than 10 microwatts (10^{-5} watts) at any point in the cable television system within 100 kHz of 406.025 MHz. We also took the opportunity propose to streamline and revise Parts 76 and 78 of the Commission's rules as stated in Appendix A of the *Notice*.

3. We received four comments on our proposal for the protection of international digital emergency and distress frequency 406.025 MHz and two reply comments. In particular, the Radio Technical Commission for Maritime Services ("RTCM") and the National Oceanic and Atmospheric Administration Search and Rescue Satellite Aided Tracking Program ("SARSAT") filed comments regarding the specific frequency identified for protection. RTCM and SARSAT stated that there are other frequencies requiring interference protection in addition to 406.025 MHz, such as 406.028 MHz and 406.037 MHz.[3]

4. The National Cable & Telecommunications Association ("NCTA") and RCN Telecom Services, Inc. ("RCN") filed comments regarding the necessity of the proposed rule to protect 406.025 MHz from harmful interference. Both parties claim that such regulation is unnecessary and could harm digital deployments.[4]

5. The National Telecommunications and Information Administration ("NTIA") in their reply comments along with the NCTA and RCN questioned the Commission's method for measuring power levels over digital cable systems.[5] The rules that exist today were originally designed for analog systems, claims RCN, and should not apply to digital cable systems due to the different nature of digital signals.[6] If the same rules that are applied to analog systems are applied to digital systems,[7] NCTA and RCN assert, it could harm digital operations and deployments.[8] The NTIA and RCN propose applying digital measurement criteria and limitations for digital cable signals.[9]

6 No parties commented on the miscellaneous rule changes proposed in the *Notice*.

III. DISCUSSION

A. Need for Interference Protection

7. Both the NCTA and RCN questioned the need for imposing power limits in the 406 MHz band. The NCTA claims that the nascent deployment of digital beacons operating in the 406 MHz band along with the lack of evidence of any harmful interference makes the proposed rules unwarranted. In addition, the NCTA claims that the Commission's signal leakage rules and performance criteria provide adequate protection for the new digital beacons.[10] RCN states that the proposed rule change is

[3] Comments of the Search and Rescue Satellite Aided Tracking Program Steering Group; Comments of the Radio Technical Commission For Maritime Services.

[4] Comments of the National Cable & Telecommunications Association at 2; Comments of RCN Telecom Services, Inc. at 2, 4.

[5] Reply Comments of the National Telecommunications and Information Administration at 6, RCN Comments at 4-6, NCTA Comments at 3-4.

[6] RCN Comments at 2-3.

[7] Analog signals have localized peak power levels located at pre-selected frequencies while digital signals maintain more of a constant average power level across all frequencies.

[8] NCTA Comments at 3

[9] RCN Comments at 3, 6, NTIA Reply Comments at 5-6.

[10] NCTA Comments at 4-5.

unnecessary because closed communications systems such as RCN and other cable systems do not pose a significant risk of interference to over the air signals.[11]

8. Ideally, a closed cable system would not interfere with over the air signals; however, there are no closed cable systems. Each connection to another piece of equipment, such as an amplifier or set-top box has the potential to open the cable system and create leaks. In addition, physical environments can play a factor in cable leaks. Rodent damaged or weathered cables, for example, can leak signals into the air. This is the basis for the Commission's signal leakage rules and monitoring requirements.[12] As a result of the conversion of cable systems from coaxial to hybrid fiber coax (HFC) systems, using fiber optic and coaxial cable, and efforts to control ingress for deployment of cable modem service, there should be a further decrease in signal leakage levels in many cable systems. Fiber optic cables do not use radio frequencies (RF), and thus, do not cause interference to RF receivers. Although we applaud the industry's general move to control signal egress and ingress, which in turn controls interference, there are still systems that fail the basic signal leakage performance criteria ("CLI").[13] In these cases, the Commission is required to order the system to shut down operations to avoid any harmful interference and protect public safety. We continue to monitor cable systems for leakage, assess monetary forfeitures (fines), and shut down systems for CLI violations.

9. Public safety is one of the most important concerns and responsibilities for the Commission. Hence, we must remain proactive and cannot wait until we encounter harmful interference in order to protect the public – we need to control the potential for harmful interference at the earliest opportunity.[14] As pointed out by NTIA, even a small number of leaks can result in an aggregate power density that exceeds the interference threshold of the SARSAT receivers, which are trying to detect low power emergency distress signals from the EPIRBs and ELTs. [15] Such interference could prevent emergency distress signals from being received by the SARSAT receivers. It is in this regard that we adopt these rules to limit power levels in cable systems in the 406 MHz vicinity where the digital EPRIBs and ELTs operate.

B. International Digital Emergency and Distress Frequencies

10. As noted by RTCM and SARSAT, 406.025 MHz is no longer the sole international digital distress frequency. According to the COSPAS-SARSAT 406 MHz Frequency Management Plan the International Telecommunication Union (ITU) has allocated the frequency band 406.0 – 406.1 MHz for the use of low power satellite position-indicating radio beacons.[16] COSPAS-SARSAT has divided this frequency band into channels to ensure that the distress beacon traffic does not exceed the system's capacity.[17] Channels are opened as beacon production demands increase and the beacon population

[11] RCN Comments at 2.

[12] 47 C F R §§ 76 605(a)(12), 76 610-20, & 76 1803-04

[13] CLI stands for Cumulative Leakage Index, a basic signal leakage performance criteria derived in 47 C F.R. § 76 611. CLI is a method used by the Commission to ascertain the potential for interference from cable signal leakage to aeronautical navigations and communications. Cable operators are required to report CLI levels to the FCC via FCC Form 320 annually in accordance with Section 76.1803.

[14] The NCTA says they would endorse rules limiting power levels in cable system operations *if* interference occurs or appears likely to occur. Otherwise, they find the rules premature due to existing CLI rules and lack of evidence of interference. NCTA comments at 5.

[15] NTIA Reply Comments at 8 *See* Annex A, "Assessment of the Potential Interference from Cable Leakage Signals to SARSAT Satellite Receivers".

[16] *COSPAS-SARSAT 406 MHz Frequency Management Plan,* C/S T.012, Issue 1 - October 2002 at H-2.

[17] *Id* at 4-5.

grows. According to the 406 MHz channel assignment table, the window for type approval of new beacon models at 406.025 MHz (channel B) closed on January 1, 2002. The next frequency, 406.028 MHz or channel C, opened on January 1, 2000, and is scheduled to close on January 1, 2006. Opening dates for frequencies 406.037 MHz and 406.040 MHz have also already been assigned (January 1, 2004 and January 1, 2008 respectively). The frequencies on which it is possible for beacons to operate range from 406.025 MHz to 406.076 MHz.

11. As the beacon population grows, more of the frequencies under the COSPAS-SARSAT frequency management plan will become available and will be used by the maritime and aeronautical communities. As a result, the Commission believes that it is necessary to extend protection to all of the frequencies listed in the COSPAS-SARSAT frequency management plan at this time. We have chosen to protect all frequencies at this time in order to avoid repeating the same regulatory process each time a new frequency in the frequency management plan becomes available and delaying interference protection to the beacons. Based on the discussion below, we also believe it is unnecessary to have a phase-in period as new beacons are approved. Therefore, we will extend interference protection for the entire band from 100 kHz below 406 025 MHz (405.925 MHz) to 100 kHz above 406.076 MHz (406.176 MHz).

12 Extending protection from 405.925 MHz to 406.176 MHz should have no greater effect than our originally proposed rule for protection within 100 kHz of 406.025 MHz as the closest analog signal remains the color carrier of channel 54[18] at 406.8425 MHz, which is 667 kHz above this band on Incrementally Related Carrier (IRC) systems.[19] On Harmonically Related Carrier (HRC) systems, which are less common, the closest carriers are the audio carrier of channel 54 at 405.600 MHz which is now 325 kHz below this band and the video carrier of channel 54 at 406.520 MHz, which is 344 kHz above this band.[20] Digital signals do not have designated carriers and operate with power levels typically 6 dB below the video carriers of analog signals. They should not be differently affected by extending the range of protection. Therefore, we do not foresee any operational problems by extending the interference protection range, with the added considerations for digital channels discussed below.

13. As a result of the transition to digital beacons and phasing out of analog beacons, the COSPAS-SARSAT program has announced that as of February 1, 2009, the satellite will no longer process analog emergency distress signals on 121.5 MHz and 243.0 MHz.[21] The Commission will revise its rules on these frequencies at the appropriate time.

C. Digital versus Analog Requirements

14. NCTA, RCN, and the NTIA have all raised concerns about the effect the proposed rule would have on digital cable systems RCN and the NTIA request that separate requirements be made for digital cable systems as the nature of digital and analog signals are different.[22] According to the NCTA's calculations, existing systems operating 256 QAM[23] would have power levels within 1 dB of the proposed

[18] Cable channel 54's boundaries are 402 to 408 MHz

[19] Harmonically Related Carrier (HRC) and Incrementally Related Carrier (IRC) methods are standard channel plans adopted for cable television under the "Cable Television Channel Identification Plan" EIA-542. Both plans allocate 6 MHz per video channel.

[20] Audio carriers operate at rms voltage levels 10-17 dB below the visual signal levels and therefore have lower power levels and should not be affected by the new rules *See* 47 C.F.R § 76.605 (a)(5).

[21] *Satellite Processing of 121.5/243.0 MHz Emergency Beacons To Be Terminated on Feb. 1, 2009,* United States Department of Commerce News, NOAA 00-R321 (Nov. 3, 2000)

[22] *See* discussion *supra* note 7

[23] Quadrature Amplitude Modulation (QAM) is the modulation regime adopted for digital transmission of cable systems. Higher levels of modulation allow for higher data rates, but are more sensitive to noise and other (continued..)

limit of 10 microwatts.[24] Such regulation would hamper cable operators' use of cable channel 54 for digital signals.[25] RCN believes that, instead of using a wide prohibition of all transmissions within 100 kHz of the protected frequencies, the Commission should use a measurement bandwidth that corresponds to the receiving bandwidth used for emergency and distress signals.[26] Otherwise, the rule change proposed by the Commission will be unduly restrictive on future digital cable operations. RCN also believes that a separate digital standard would help accelerate the transition to digital television by easing the burden of compliance on cable operators.[27]

15. We agree with the NTIA and RCN that, for the purpose of protecting EPIRBs and ELTs, digital cable channels should not be made to follow the same measurement standards set forth for analog channels. Additionally, we do not want to restrict a cable operator's ability to operate on cable channel 54. Therefore, we will adopt NTIA and RCN's proposed measurement technique and will impose average power limits over a given bandwidth and time duration for digital signals.

16. Specifically, the bandwidth and time duration aspects are derived from the application or service that we are protecting. The EPIRBs and ELTs using the 406 MHz frequency band transmit their signals to the COSPAS-SARSAT satellite receiver. The Search and Rescue Processor subsystem that receives the signals transmitted from the beacons has a receiver bandwidth of 24 kHz.[28] It is critical that the transmitted signal be received by the processor subsystem without any interference. Therefore, we are imposing a limit on the average power of a digital signal over a resolution bandwidth of 30 kHz in order to protect the satellite receiver from interference.

17. EPIRBs and ELTs transmit their signals at a bit rate of 400 bps.[29] At this data rate, the bit duration of each bit is 2.5 milliseconds. Therefore, for this application, the digital signal power levels should be measured over 2.5 millisecond intervals. This will capture the average signal power level over the length of time corresponding to the duration of a single bit and will help minimize interference to transmitted bits.[30]

18. In sum, we are prescribing that digital cable systems must limit their average power levels between 405.925 MHz and 406.176 MHz to 10^{-5} watts, measured using an RMS detector, [31] over any 30 kHz bandwidth in any 2.5 millisecond interval. This rule is tailored specifically for the protection of EPIRBs and ELTs only. Should the Commission adopt measurement standards for digital cable signals

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(continued from previous page)
degradation of the transport medium. The modulation rate typically used is 64 QAM, but as services evolve cable systems are going to the higher, 256 QAM, data rate to allow efficient delivery of services such as High Definition (HDTV).

[24] NCTA Comments at 3-4.

[25] NCTA Reply Comments at 3

[26] RCN Comments at 6.

[27] *Id*

[28] *Description of the Payloads Used in the COSPAS-SARSAT LEOSAR System*, C/S T.003, Issue 3 – Revision 1 (Oct 2001) at 2-6.

[29] *Specification for COSPAS-SARSAT 406 MHz Distress Beacons*, C/S T.001, Issue 3 – Revision 4 (Oct. 2002) at 2-1

[30] NTIA Reply Comments at 6.

[31] The use of an RMS detector for measuring digital cable signals was recommended by NTIA in their reply comments See NTIA Reply Comments at 6 The RMS detector measures power based on the RMS voltage and represents a true measure of the average power.

in the broader context in the future, we will consider the full set of parameters surrounding digital signals. Analog signals, however, are prohibited from delivering peak power levels equal to or greater than 10^{-5} watts from 405.925 MHz to 406.176 MHz.

19. Imposing the measurement technique proposed by NTIA for digital channels will meet our goal while satisfying all commenting parties. Cable operators will be able to operate digital cable systems without being overly restricted and the Commission will be able to satisfy their requirement for protecting public safety In addition, the many cable operators who have not yet deployed digital cable, but are planning to do so, will have the guidance to plan for these requirements.

D. Miscellaneous

20 No one filed comments on the miscellaneous changes to Part 76 and Part 78 detailed in the *Notice*. We will proceed with these changes as proposed with a minor modification to Section 76.602 to account for an updated version to the Cable Television Channel Identification Plan standard. To maintain a consistent reference in our rules, we also change the Part 15 corollary to Section 76.602.

IV. CONCLUSION

21. The Commission is adopting measurement techniques that both protect safety of life and permit the operation of analog and digital cable systems. By further defining the measurement techniques for digital signals to protect EPIRBs and ELTs, cable operators with digital cable systems will be able to deploy new digital services without undue power limitations on cable channel 54. By extending interference protection to all frequencies in the COSPAS-SARSAT 406 MHz Management Plan, the Commission is protecting all current beacon models as well as known future beacon models. These modifications will protect public safety interests while adapting to changes in digital technology.

V. PROCEDURAL MATTERS

22. *Final Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act ("RFA"),[32] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the *Notice*. The Commission sough written public comments on the possible significant economic impact of the proposed policies and rules on small entities in the *Notice*, including comments on the IRFA. Pursuant to the RFA,[33] a Final Regulatory Flexibility Analysis is contained in Appendix B.

23. *Paperwork Reduction Act Analysis.* The action contained herein has been analyzed with respect to the Paperwork Reduction Act of 1995 and found to impose no new or modified reporting and recordkeeping requirements or burdens on the public.

[32] *See* 5 U.S.C. § 603.

[33] *See id* § 604

VI. ORDERING CLAUSES

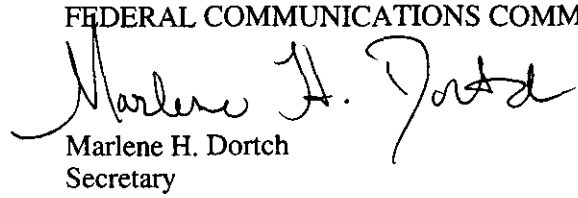
24. Accordingly, IT IS ORDERED that, pursuant to authority found in Sections 4(i)-(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i)-(j), 303(c), (f), and (r), and 309(j), the Commission's rules ARE HEREBY AMENDED as set forth in Appendix A, and shall become effective 30 days after publication in the Federal Register.

25. IT IS FURTHER ORDERED that the Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

A. Further Information

1. For further information concerning this Report and Order, contact Sarah Mahmood, (202) 418-7009, or Wayne McKee, (202) 418-2355, Engineering Division, Media Bureau.

FEDERAL COMMUNICATIONS COMMISSION



Marlene H. Dortch
Secretary

APPENDIX A

RULE CHANGES

Part 15 of Title 47 of the Code of Federal Regulations is amended as follows:

PART 15 – RADIO FREQUENCY DEVICES

1. The authority for Part 15 continues to read as follows:

AUTHORITY· 47 U.S.C. 154, 302, 303, 304, 307, 336, and 554a.

2 Section 15.38(b)(7) is revised as follows:

§ 15.38 Incorporations by Reference.

* * * * *

(b) * * *

(7) CEA-542-B: "CEA Standard: Cable Television Channel Identification Plan," July 2003, IBR approved for § 15.118

* * * * *

3. Section 15.118 is amended by revising paragraph (b) to read as follows:

§ 15.118 Cable ready consumer electronics equipment.

* * * * *

(b) Cable ready consumer electronics equipment shall be capable of receiving all NTSC or similar video channels on channels 1 through 125 of the channel allocation plan set forth in CEA-542-B: "CEA Standard: Cable Television Channel Identification Plan," (incorporated by reference, see § 15.38).

* * * * *

Part 76 of Title 47 of the Code of Federal Regulations is to be amended as follows:

PART 76 – MULTICHANNEL VIDEO AND CABLE TELEVISION SERVICE

4. The authority for Part 76 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 152, 153, 154, 301, 302a, 303, 303a, 307, 308, 309, 312, 317, 325, 338, 339, 503, 521, 522, 531, 532, 533, 534, 535, 536, 537, 543, 544, 544a, 545, 548, 549, 552, 554, 556, 558, 560, 531, 571, 572, and 573.

5. Section 76.5 (v) is revised by deleting the Note and adding a last sentence to read as follows:

§ 76.5 Definitions.

* * * * *

(v) *Subscriber terminal.* The cable television system terminal to which a subscriber's equipment

is connected. Separate terminals may be provided for delivery of signals of various classes. Terminal devices interconnected to subscriber terminals of a cable system must comply with the provisions of Part 15 of this Chapter for TV interface devices.

* * * * *

6. Section 76.602(b)(9) is revised as follows:

§ 76.602 Incorporations by Reference.

* * * * *

(b) * * *

(9) CEA-542-B· "CEA Standard· Cable Television Channel Identification Plan," July 2003, IBR approved for § 76.605.

* * * * *

7. Amend Section 76.605 as follows:

a. Section 76.605 (a) is revised as shown below;

b. Section 76.605 (a)(1)(ii) is revised as shown below;

c. Section 76.605 (a)(6) is revised and paragraphs (a)(6)(i) and (a)(6)(ii) are deleted;

d. Section 76.605 (a)(7) is amended by revising the introductory text; deleting paragraphs (a)(7)(i) through (iv), and renumbering paragraphs A, B, and C, as i, ii, and iii;

e. Note 3 is also revised.

§ 76.605 Technical Standards.

(a) The following requirements apply to the performance of a cable television system as measured at any subscriber terminal with a matched impedance at the termination point or at the output of the modulating or processing equipment (generally the headend) of the cable television system or otherwise as noted The requirements are applicable to each NTSC or similar video downstream cable television channel in the system:

(1)(i) * * *

(ii) Cable television systems shall transmit signals to subscriber premises equipment on frequencies in accordance with the channel allocation plan set forth in CEA-542-B: "CEA Standard: Cable Television Channel Identification Plan," (Incorporated by reference, see § 76.602).

* * * * *

(6) The amplitude characteristic shall be within a range of ±2 decibels from 0.75 MHz to 5.0 MHz above the lower boundary frequency of the cable television channel, referenced to the average of the highest and lowest amplitudes within these frequency boundaries. The amplitude characteristic shall be measured at the subscriber terminal.

(7) The ratio of RF visual signal level to system noise shall not be less than 43 decibels. For class I cable television channels, the requirements of this section are applicable only to:

* * * * *

NOTE 3: The requirements of this section shall not apply to devices subject to the TV interface device rules under Part 15 of this Chapter.

* * * * *

8. Section 76.610 is revised by adding provisions and deleting the last sentence and Notes 1 and 2 to read as follows:

§ 76.610 Operation in the frequency bands 108-137 and 225-400 MHz – scope of application.

The provisions of §§ 76 605(a)(12), 76.611, 76.612, 76.613, 76.614, 76.616, 76.617, 76.1803 and 76.1804 are applicable to all MVPDs (cable and non-cable) transmitting carriers or other signal components carried at an average power level equal to or greater than 10^{-4} watts across a 25 kHz bandwidth in any 160 microsecond period, at any point in the cable distribution system in the frequency bands 108-137 and 225-400 MHz for any purpose. Exception: Non-cable MVPDs serving less than 1000 subscribers and less than 1000 units do not have to comply with § 76.1803.

9. Section 76.616 is revised to read as follows:

§ 76.616 Operation near certain aeronautical and marine emergency radio frequencies.

(a) The transmission of carriers or other signal components capable of delivering peak power levels equal to or greater than 10^{-5} watts at any point in a cable television system is prohibited within 100 kHz of the frequency 121 5 MHz, and is prohibited within 50 kHz of the two frequencies 156.8 MHz and 243.0 MHz.

(b) At any point on a cable system from 405.925 MHz to 406.176 MHz analog transmissions are prohibited from delivering peak power levels equal to or greater than 10^{-5} watts. The transmission of digital signals in this range is limited to power levels measured using a root-mean-square detector of less than 10^{-5} watts in any 30 kHz bandwidth over any 2.5 millisecond interval.

10 Remove and reserve Section 76.618.

§ 76.618 [Removed and Reserved]

11. Remove and reserve Section 76.619.

§ 76.619 [Removed and Reserved]

12. Remove and reserve Section 76.620.

§ 76.620 [Removed and Reserved]

13. Section 76.1510 is revised to include Sections 76.611, 76.1803 and 76.1804 as part of the requirements and should read as follows:

§ 76.1510 Application of certain Title VI provisions.

The following sections within part 76 shall also apply to open video systems; §§ 76.71, 76.73, 76.75, 76.77, 76.79, 76.1702, and 76.1802 (Equal Employment Opportunity Requirements); §§ 76.503 and 76.504 (ownership restrictions); § 76.981 (negative option billing); and §§ 76.1300, 76.1301 and 76 1302 (regulation of carriage agreements); § 76.611 (signal leakage restrictions); § 76.1803 and 76.1804 (signal leakage monitoring and aeronautical frequency notifications); provided, however, that

these sections shall apply to open video systems only to the extent that they do not conflict with this subpart S. Section 631 of the Communications Act (subscriber privacy) shall also apply to open video systems.

Part 78 of the Code of Federal Regulations is amended as follows:

PART 78 – CABLE TELEVISION RELAY SERVICE

14. The authority for Part 78 continues to read as follows:

AUTHORITY: Secs. 2, 3, 4, 301, 303, 307, 308, 309, 48 Stat., as amended 1064, 1065, 1066, 1081, 1082, 1083, 1084, 1085; 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

15. Amend Section 78.19(f)(2)(ii) to read as follows:

§ 78.19 Interference

* * * * *

(f) * * *

(2) * * *

(i) * * *

(ii) Within the rectangular areas defined as follows (vicinity of Denver, CO):

Rectangle 1:
41°30'00" N. Lat. on the north
103°10'00" W. Long. on the east
38°30'00"; N. Lat. on the south
106°30'00" W. Long. on the west
Rectangle 2:
38°30'00" N. Lat. on the north
105°00'00" W. Long. on the east
37°30'00" N. Lat. on the south
105°50'00" W. Long. on the west
Rectangle 3:
40°08'00" N. Lat. on the north
107°00'00" W. Long. on the east
39°56'00" N. Lat. on the south
107°15'00" W. Long. on the west

* * * * *

16. Amend Section 78.27(b)(1) to read as follows:

§ 78.27 License conditions.

* * * * *

(b) * * *

(1) The licensee of a CARS station shall notify the Commission in writing when the station commences operation. Such notification shall be submitted on or before the last day of the

authorized one year construction period; otherwise, the station license shall be automatically forfeited.

* * * * *

17 Add Section 78.30 to read as follows:

§ 78.30 Forfeiture and termination of station authorizations.

(a) A CARS license will be automatically forfeited in whole or in part without further notice to the licensee upon the voluntary removal or alteration of the facilities, so as to render the station not operational for a period of 30 days or more.

(b) If a station licensed under this part discontinues operation on a permanent basis, the licensee must cancel the license. For purposes of this section, any station which has not operated for one year or more is considered to have been permanently discontinued.

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act ("RFA"),[34] an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the Notice of Proposed Rulemaking ("NPRM") in MB Docket No. 03-50, FCC 03-37. The Commission sought written public comment on the proposals in the Notice, including comment on the IRFA.[35] This Final Regulatory Flexibility Analysis ("FRFA") conforms to the RFA.[36]

Need for, and Objectives of, this Report and Order.

2. We have adopted rules to provide interference protection to the international digital emergency and distress frequencies in the COSPAS-SARSAT 406 MHz Frequency Management Plan. [37] Digital distress beacons are becoming more widely used as the analog beacons are slowly being phased out. In the interest of public safety, our rules will eliminate potential interference from cable systems to the frequencies used by these digital beacons. All frequencies used by the digital beacons, according to the 406 Frequency Management Plan, will be added to those frequencies which are already protected from cable signal leakage. This addition covers all foreseeable digital beacon frequencies and should not pose any greater burden on small businesses. In addition to these rules, this *Order* updates, streamlines, and revises parts 76 and 78 of the Commission's rules by fixing typographical errors, removing grandfathered dates that have already passed, etc. These changes should have no differential impact on small businesses.

Summary of Significant Issues Raised by Public Comments in Response to IRFA.

3. No one commented in direct response to the IRFA. We received comments from the NCTA, RCN, NOAA, and RTCM and reply comments from the NTIA and NCTA. None of the parties commented on the IRFA. Many of the comments concerned extending the interference protection as well as differentiating between analog and digital cable systems. No parties commented on small business related issues.

Description and Estimate of the Number of Small Entities to Which the Rules Will Apply.

4. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules adopted herein.[38] The RFA defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction" under Section 3 of the Small Business Act.[39] Under the Small Business Act, a small business concern is one which: (1) is independently owned and operated;

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[34] *See* 5 U.S.C. § 603 The RFA, *see* 5 U S.C § 601 – 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L No 104-121, Title II, 110 Stat. 857 (1996).

[35] NPRM, 15 FCC Rcd 9305, 9318 (2000).

[36] *See* 5 U.S.C. § 604.

[37] *See COSPAS-SARSAT 406 MHz Frequency Management Plan,* C/S T.012, Issue 1 - October 2002 at H-2

[38] 5 U S C. § 604(a)(3)

[39] *Id* § 601(3)(incorporating by reference the definition of "small business concern" in 15 U S.C. § 632.) Pursuant to the RFA, the statutory definition of a small business applies, "unless an agency, after consultation with the Office of Advocacy of the SBA and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.

(2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA").[40]

5. **Cable and Other Programming Distribution.** The SBA has developed a definition of small entities for cable and other pay television services, which includes such companies generating $12.5 million or less in annual receipts.[41] This definition includes cable system operators, closed circuit television services, direct broadcast satellite services, multipoint distribution systems, satellite master antenna systems, and subscription television services. According to the Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.[42] Consequently, the Commission estimates that the majority of providers in this service category are small businesses that may be affected by the rules and policies adopted herein. We address below services individually to provide a more precise estimate of small entities.

6. **Open Video System ("OVS").** The Commission has certified eleven OVS operators. Of these eleven, only two are providing service. Affiliates of residential Communications Network, Inc. ("RCN") received approval to operate OVS systems in New York City, Boston, Washington, D.C., and other areas. RCN has sufficient revenues to assure us that they do not qualify as small business entities. Little financial information is available for the other entities authorized to provide OVS service that are not yet operational. Given that other entities have been authorized to provide OVS service but have not yet begun to generate revenues, we conclude that at least some of the OVS operators qualify as small entities.

7. **Cable System Operators (Rate Regulation Standard).**The Commission has developed, a size standard for small cable system operators for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.[43] Based on our most recent information, we estimate that there were 1439 cable operators that qualified as small cable companies at the end of 1995.[44] Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. The Commission's rules define a "small system," for the purposes of rate regulation, as a cable system with 15,000 or fewer subscribers.[45] The Commission does not request nor does the Commission collect information concerning cable systems serving 15,000 or fewer subscribers and thus is unable to estimate, at this time, the number of small cable systems nationwide.

8. **Cable System Operators (Telecom Act Standard).**The Communications Act of 1934, as amended, also contains a definition of a small cable system operator, which is "a cable operator that, directly of through an affiliate, serves in the aggregate fewer than 1% of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed

[40] 15 U S.C. § 632.

[41] 13 C F R § 121.201, NAICS code 517510

[42] U S Census Bureau, 1997 Economic census, Subject Series. Information, "Establishment and Firm Size (Including Legal Form of Organization)", Table 4, NAICS code 513220 (issued October 2000).

[43] 47 C F R § 76.901(e). The Commission developed this definition based on its determination that a small cable system operator is one with annual revenues of $100 million or less. *Implementation of Sections of the 1992 Cable Act. Rate Regulation, Sixth Report and Order and Eleventh Order on Reconsideration,* MM Docket No 92-266 and 93-215, 10 FCC Rcd 7393 (1995), 60 FR 10534 (February 27, 1995).

[44] Paul Kagan Associates, Inc., *Cable TV Investor*, Feb. 29, 1996 (based on figures for Dec. 30, 1995)

[45] 47 C F R § 76.901(c)

$250,000,000."[46] The Commission has determined that there are 61,700,000 subscribers in the United States. Therefore, a cable operator serving fewer than 617,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed $250 million in the aggregate.[47] Based on available data, we find that the number of cable operators serving 617,000 subscribers or less totals approximately 1450.[48] Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed $250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under definition in the Communications Act of 1934.

9. **Private Cable Operators**. Based on our most recent information, we estimate that there are 3400 private cable operators serving multiple dwelling units that qualify as small cable companies as characterized by the standard set forth in the Telecommunications Act.[49] Some of those companies may have grown to serve from 800,000 to 1.6 million subscribers,[50] and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 3,400 small entity private cable system operators that may be affected by the decisions and rules we are adopting.

Description of Projected Reporting, Record Keeping and other Compliance Requirements.

10. This Report and Order creates no additional reporting, record keeping, or other compliance requirements. Rather, makes reporting easier and more efficient by permitting filing by electronic means via the Internet. It also simplifies reporting by standardizing forms and deleting duplicate and unnecessary data collections.

Steps Taken to Minimize the Impact on Small Entities, and Significant Alternatives Considered.

11. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities."[51]

12. It was considered whether providing interference protection to the digital beacons would differentially affect small businesses. However, examination of the record shows that the restricted power levels would still allow operations to continue without causing any harm or loss to smaller entities. No alternative power levels were considered because on this issue there were no questions raised in the NPRM or comments regarding small businesses, and because there is no evidence that the rules

[46] 47 U S.C. § 543(m)(2).

[47] 47 C.F.R. § 76 1403(b).

[48] Paul Kagan Associates, Inc., Feb 29, 1996 (based on figures for Dec. 30, 1995).

[49] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video Programming, Fourth Annual Report*, 13 FCC Rcd 1034, 1087 (1998).

[50] *Annual Assessment of the Status of Competition in Markets for the Delivery of Video programming, Fifth Annual Report*, 13 FCC Rcd 24284, 24301 (1998).

[51] 5 U.S.C § 603(c)(1) – (c)(4).

establishing these power levels would affect smaller entities either adversely or differently than larger entities.

13. **Report to Congress.** We will send a copy of this Report and Order, including this FRFA, in a report to Congress pursuant to the Congressional Review Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this report and Order and FRFA (or summary thereof) will also be published in the Federal Register, pursuant to 5 U.S.C. § 604(b), and will be sent to the Chief Counsel for Advocacy of the Small Business Administration.